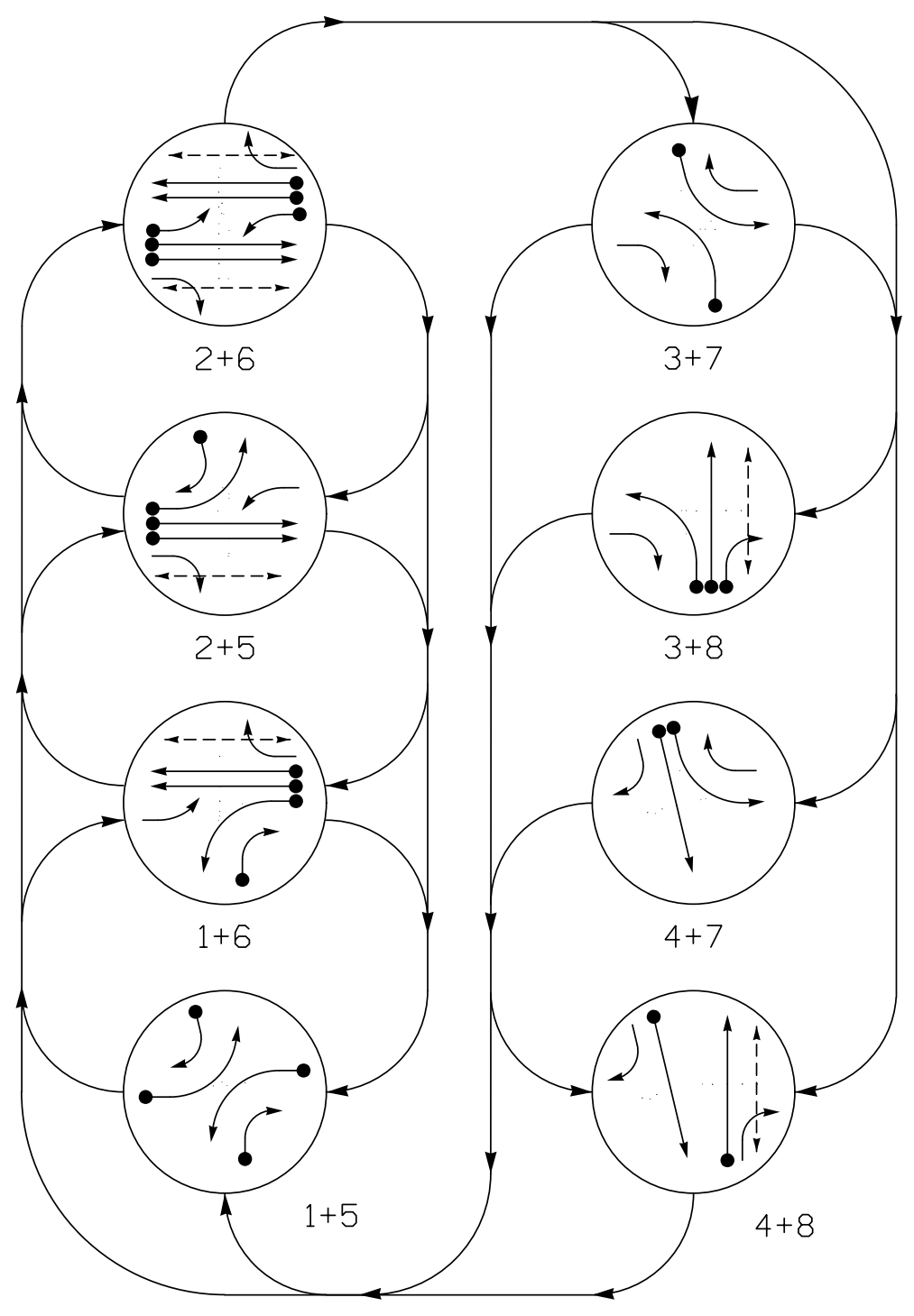


8/20/2025 2:07:35 PM susan.pennington K:\CHL\PRJ\011036427 - U-5956 (Union Cemetery) MSIgnals454 - Signal Design\0100875-2025a.dgn

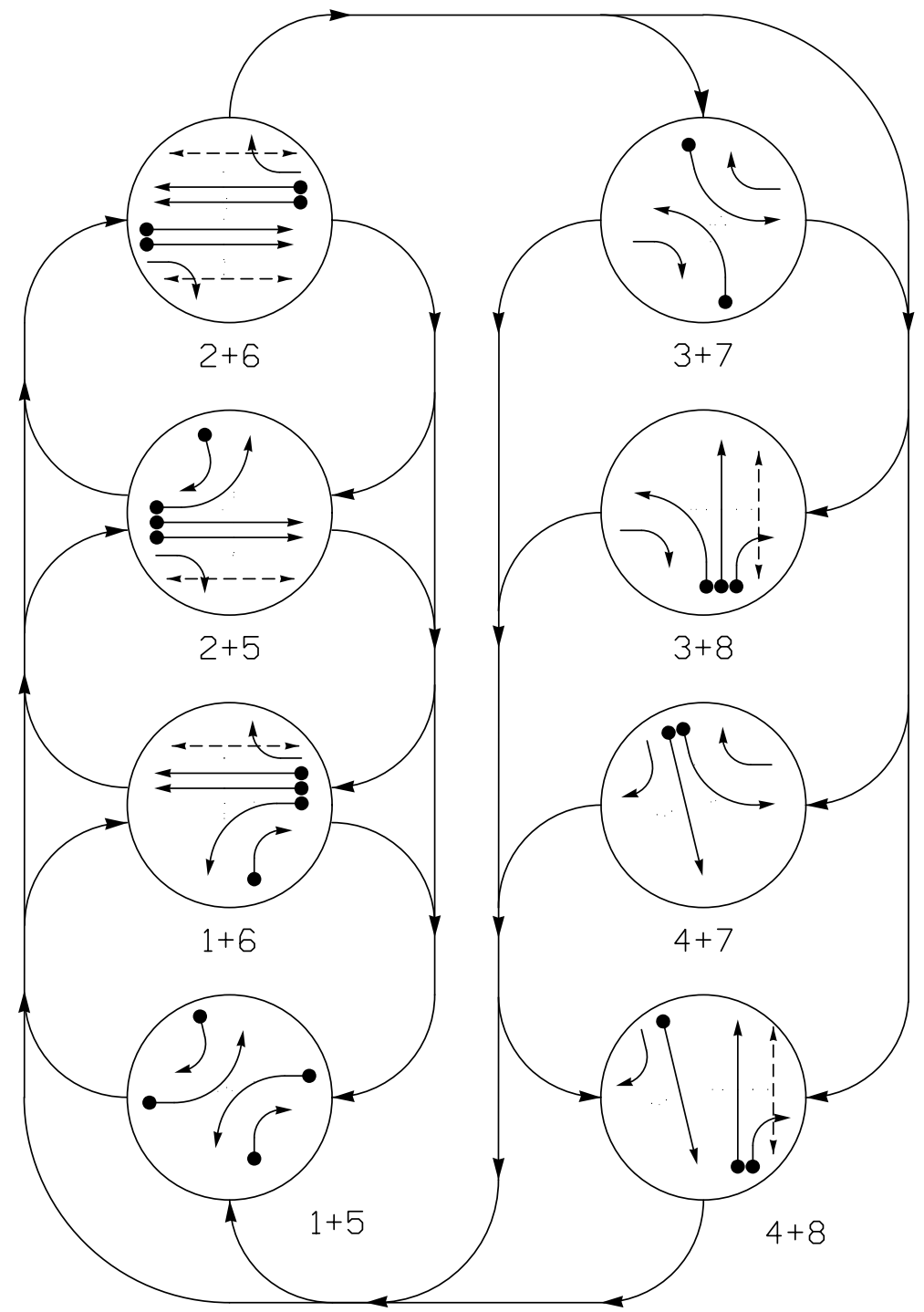
DEFAULT PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE							
	1 + 5	1 + 6	2 + 6	3 + 7	3 + 8	4 + 7	4 + 8	FLASH
11	←	←	←	←	←	←	←	←
21	R	R	G	G	R	R	R	R
22	R	R	G	G	R	R	R	R
31	←	←	←	←	←	←	←	←
41, 43	←	←	R	R	R	R	G	G
42	R	R	R	R	R	G	G	R
51	←	←	←	←	←	←	←	←
61	R	G	R	G	R	R	R	R
62	R	G	R	G	R	R	R	R
71, 72	←	←	←	←	←	←	←	←
81	R	R	R	R	R	G	R	G
82	R	R	R	R	R	G	R	G
P21, P22	DW	DW	W	W	DW	DW	DW	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	W	DW	W	DRK

ALTERNATE PHASING DIAGRAM



ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE							
	1 + 5	1 + 6	2 + 6	3 + 7	3 + 8	4 + 7	4 + 8	FLASH
11	←	←	←	←	←	←	←	←
21	R	R	G	G	R	R	R	R
22	R	R	G	G	R	R	R	R
31	←	←	←	←	←	←	←	←
41, 43	R	R	R	R	R	R	G	G
42	R	R	R	R	R	R	G	G
51	←	←	←	←	←	←	←	←
61	R	G	R	G	R	R	R	R
62	R	G	R	G	R	R	R	R
71, 72	←	←	←	←	←	←	←	←
81	R	R	R	R	R	G	R	G
82	R	R	R	R	R	G	R	G
P21, P22	DW	DW	W	W	DW	DW	DW	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	W	DW	W	DRK

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	URNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	NEW CARD
1A	6X40	0	2-4-2	X	1 15.0*	-	X	-	X	-	X
1B	6X40	0	2-4-2	X	6# 3.0	-	X	-	X	X	X
2A	6X6	300	6	X	2 -	-	X	X	X	-	X
2B	6X6	300	6	X	2 -	-	X	X	X	-	X
3A	6X40	0	2-4-2	X	3 3.0	-	X	-	X	-	X
4A	6X40	0	2-4-2	X	4 -	-	X	-	X	-	X
5A	6X40	0	2-4-2	X	5 15.0*	-	X	-	X	-	X
5B	6X40	0	2-4-2	X	2# 3.0	-	X	-	X	X	X
5C	6X15	0	2-4-2	X	5 15.0	-	X	-	X	-	X
6A	6X6	300	6	X	6 -	-	X	X	X	-	X
6B	6X6	300	6	X	6 -	-	X	X	X	-	X
7A	6X40	0	2-4-2	X	7 3.0	-	X	-	X	-	X
8A	6X40	0	2-4-2	X	8 -	-	X	-	X	-	X
**8B	5X6	0	6	X	8 -	-	X	-	X	-	X

* Disable Delay During Alternate Phasing Operation.
Disable Phase Call for Loops During Alternate Phasing Operation.
** Set sensitivity to appropriate level to detect a bicycle

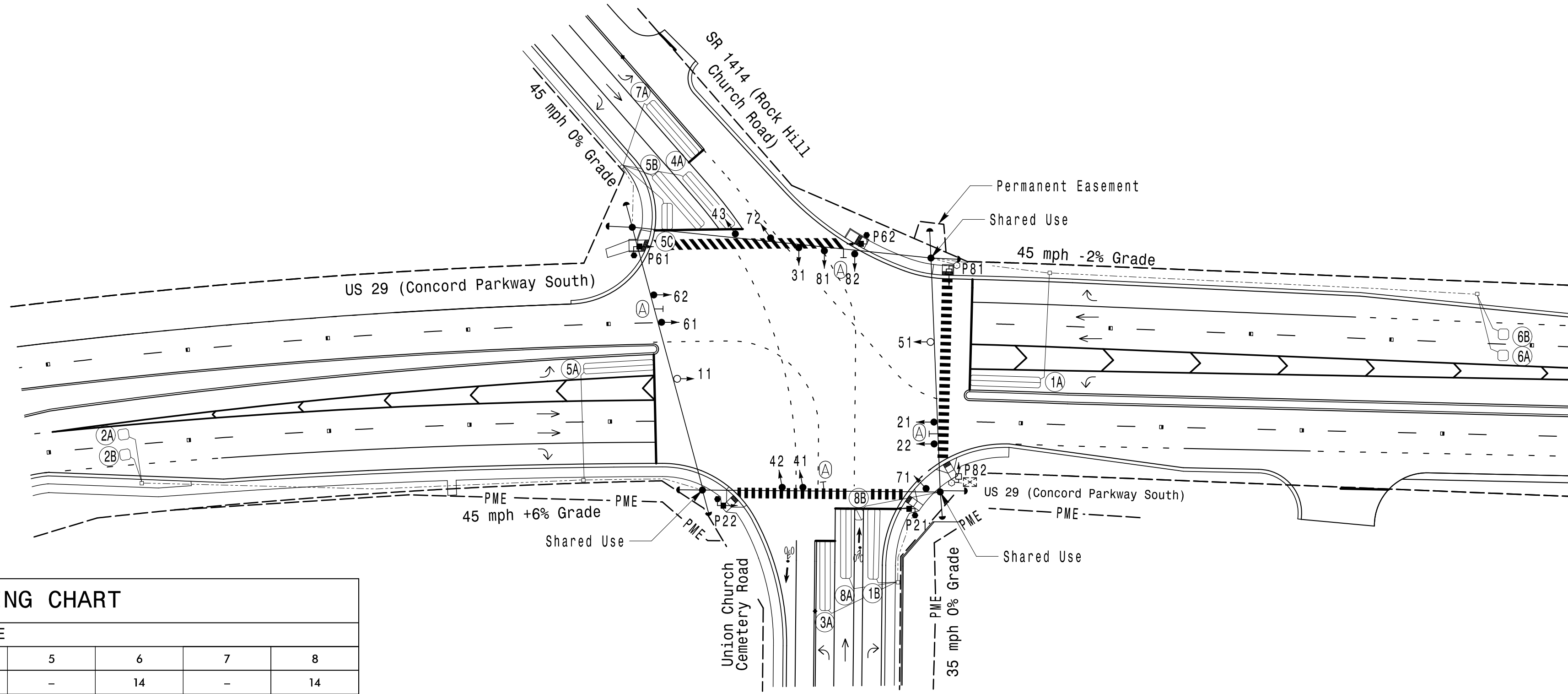
8 Phase Fully Actuated w/ Alternate Phasing (Concord Central System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- The City Traffic Engineer will determine the hours of use for each phasing plan.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- See Roadway Pavement Marking Plans for proposed stop line and crosswalk locations.

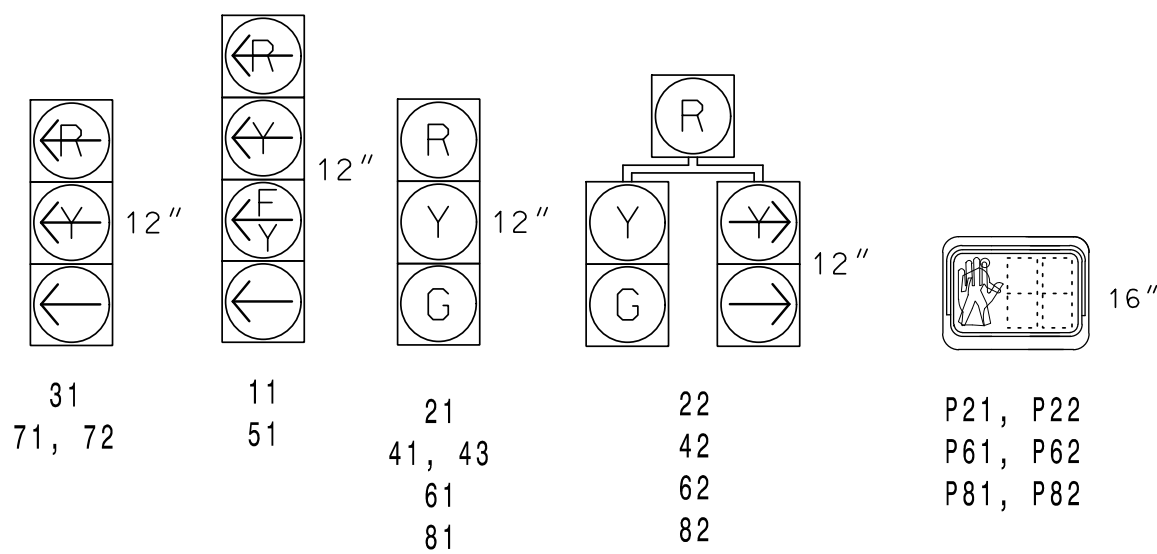
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT



SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME TIMING CHART								
FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Walk *	-	14	-	-	-	14	-	14
Ped Clear	-	24	-	-	-	28	-	27
Min Green *	7	12	7	7	7	12	7	7
Passage *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max 1 *	20	120	20	40	20	120	20	40
Yellow Change	3.0	4.7	3.0	4.5	3.0	4.7	3.0	4.5
Red Clear	3.5	2.5	3.9	3.0	3.4	2.5	4.6	3.0
Added Initial *	-	1.5	-	-	-	1.5	-	-
Maximum Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Advance Walk	-	7	-	-	-	7	-	7
Non Lock Detector	X	-	X	X	X	-	X	X
Vehicle Recall	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Dual Entry	-	-	-	-	-	-	-	-

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

- PROPOSED: Traffic Signal Head, Modified Signal Head, Sign, Pedestrian Signal Head With Push Button & Sign, Type II Signal Pedestal, Signal Pole with Guy, Signal Pole with Sidewalk Guy, Inductive Loop Detector, Controller & Cabinet, Junction Box, 2-in Underground Conduit, Right of Way, Permanent Maintenance Easement, Directional Arrow, Curb Ramp, Street Name Sign (D3-1)
- EXISTING: N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A

Signal Upgrade - Final Design

Prepared for the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

PLANS PREPARED IN THE OFFICE OF:

KimleyHorn

NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

US 29 (Concord Parkway South) at SR 1414 (Rock Hill Church Road) and Union Church Cemetery Road

Division 10 Cabarrus County Concord

PLAN DATE: February 2025
PREPARED BY: SP Pennington
REVIEWED BY: KP Baumann

REVISIONS: _____
INIT: _____
DATE: _____

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

Kevin P. BAUMANN
ENGINEER

8/21/2025

SIG. INVENTORY NO. 10-0875